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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/667,583

09/22/2003

Katsuhiko Hayashi

10416/22

9634

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7590

10/19/2004

BROWN RAYSMAN MILLSTEIN FELDER & STEINER, LLP
SUITE 711
1880 CENTURY PARK EAST
LOS ANGELES, CA 90067

EXAMINER

NGO, HUNG V

ART UNIT

PAPER NUMBER

2831

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/667,583

Applicant(s)

HAYASHI, KATSUHIKO

Examiner

Hung V Ngo

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 16 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-28 is/are pending in the application.
- 4a) Of the above claim(s) 7,8 and 24-28 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-20 is/are allowed.
- 6) ☒ Claim(s) 9-13 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 9-10, 12-13, 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Berndlmaier et al.

Berndlmaier et al disclose a substrate, a semiconductor chip, a cover having a flat portion and extended portions, a heat sink (liquid metal) having projecting portion, the heat sink and the semiconductor chip being in contact with each other only at the projecting portion so that there is a space between the substrate and the cap (Fig 4)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berndlmaier et al in view of Daves et al.

The teaching of Berndlmaier et al as discussed above does not disclose the roof plate made of aluminum (re claim 5).

Daves et al teach the use of a roof plate (300) made of aluminum (col 7, lines 48-52). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use aluminum for the roof plate of Berndlmaier et al the purpose of improving heat dissipation performance as taught by Daves et al (col 1, line 42).

Response to Arguments

The arguments filed 07-16-04 have been considered, but are not persuasive.

Applicant argues (1) that Berndlmaier does not teach or suggest the heat sink and the semiconductor chip being in contact with each other only at the projecting portion. With respect to (1), see Fig 4.

Allowable Subject Matter

Claims 14-16 are allowed.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung V Ngo whose telephone number is (571) 272-1979. The examiner can normally be reached on Monday to Thursday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A Reichard can be reached on (571) 272-2800 EXT 31. The fax

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phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HVN
10-04-04

HVN ✓ NGL

**HUNG V. NGO
PRIMARY EXAMINER**